



PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

IN THE APPLICATION OF:

SAVERIO CARL FALCO ET AL.

CASE NO.: BB1167USCNT

APPLICATION NO.: 10/829432

CONFIRMATION NO.: 7009

GROUP ART UNIT: 1638

EXAMINER: PHUONG T. BUI

FILED: APRIL 21, 2004

FOR: GENES ENCODING SULFATE ASSIMILATION PROTEINS

REQUEST TO CORRECT INVENTORSHIP
UNDER 37 C.F.R. 1.48(a)

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

It is respectfully requested under 37 C.F.R. 1.48(a)(1) to correct the inventorship for the instant application in the following manner:

Please add Mitchell Tarczynski as an inventor.

The co-inventors will now be: Stephen M. Allen, Shawn L. Anderson, Saverio Carl Falco and Mitchell Tarczynski.

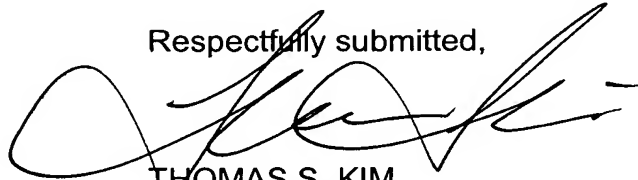
Attached hereto are the following as required under 37 C.F.R. 1.48(a)(2)-(5):

- 1) a statement from the inventor being added indicating that the error in inventorship occurred without deceptive intent;
- 2) declarations by the actual inventors as required by 37 C.F.R. 1.63;
- 3) the processing fee set forth in 37 C.F.R. 1.17(i) (Fee Transmittal Form authorizing fee payment); and
- 4) the written consent of the assignee (Statement by Assignee in Support of Request to Correct Inventorship and Statement Under 37 CFR 3.73(b)).
- 5) Supplemental Application Data Sheet

03/24/2006 HDE5TA1 00000019 041928 10829432
01 FC:1464 130.00 DA

Please charge any fees or credit any overpayment of fees which are required in connection herewith to Deposit Account No. 04-1928 (E. I. du Pont de Nemours and Company).

Respectfully submitted,

A handwritten signature in black ink, appearing to read 'T. Kim', written over a horizontal line.

THOMAS S. KIM
Attorney For Applicants
Registration No. 51,009
Telephone: 302-992-4061
Facsimile: 302-892-1026

Dated: 3/21/06



PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

IN THE APPLICATION OF:

SAVERIO CARL FALCO ET AL.

CASE NO.: BB1167USCNT

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GROUP ART UNIT: 1638

EXAMINER: PHUONG T. BUI

FILED: APRIL 21, 2004

FOR: GENES ENCODING SULFATE ASSIMILATION PROTEINS

STATEMENT OF INVENTORSHIP ERROR UNDER 37 C.F.R. §1.48(a)(2)

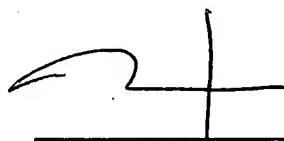
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

I, Mitchell Tarczynski, the person being added as a co-inventor of the above-identified application, do hereby declare that the inventorship error in failing to include my name as an inventor on this patent occurred without any deceptive intent.

Respectfully submitted,

Dated: 8 MAR 2006



Mitchell Tarczynski



PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In the Application of:
SAVERIO CARL FALCO, ET. AL.

CASE NO.: BB1167USCNT

APPLICATION NO.: 10/829,432

GROUP ART UNIT: 1638

FILED: APRIL 21, 2004

EXAMINER: BUI, PHOUNG T.

CONFIRMATION NO.: 7009

CUSTOMER NO.: 23906

FOR: GENES ENCODING SULFATE
ASSIMILATION PROTEINS

Declaration of Dr. Mitchell C. Tarczynski Pursuant to 37 CFR §1.132

I, Dr. Mitchell C. Tarczynski, am a citizen of the United States of America, residing at West Des Moines, IA, United States of America, and I declare as follows:

1. I received degrees of Bachelor of Science in Biology and Doctorate of Philosophy in Plant Biochemistry and Physiology from Florida State University, Tallahassee, Florida on March, 1981 and March, 1989, respectively.

2. I have been employed at Pioneer Hi-Bred International, Inc. for approximately 11 years. I presently hold the position of Research Coordinator where I lead trait and product development groups in the area of nutritional improvement of animal feed. The tools of biotechnology and molecular breeding are routinely employed in our efforts to develop traits and products.

Prior to my work at Pioneer Hi-Bred, I was employed as Senior Scientist at 5 Prime -> 3 Prime, Inc. in Boulder, Colorado, from September, 1992 to March, 1995. My research focus at 5 Prime -> 3 Prime, Inc. was the development of technologies for molecular biology application. Prior to 5 Prime -> 3 Prime, Inc., I worked as a Postdoctoral Fellow at the University of Arizona in Tucson, Arizona, from November, 1989 to July, 1992.

3. I believe I am a co-inventor of the claimed subject matter of the above-entitled application. It is my understanding that I will be added as a co-inventor and that the necessary steps will be taken to accomplish this change.

4. I have reviewed the Office Action dated September 26, 2005. I am aware that this declaration is being submitted to address the concerns set forth on pages 2

through 6 of the Office Action relating to SEQ ID NO:3 and whether it constitutes a full length open reading frame

5. Clone p0016.ctscj40rb comprises a nucleotide sequence that is substantially identical to the nucleotide sequence set forth in SEQ ID NO:3, the key difference being a missing nucleotide in SEQ ID NO:3. This missing nucleotide causes a frameshift error, and, thus, SEQ ID NO:3 encodes a partial polypeptide.

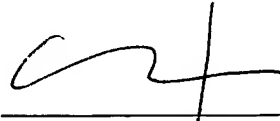
An alignment of the nucleic acid sequence in clone p0016.ctscj40rb and SEQ ID NO:3 is depicted in Appendix C. An alignment of the amino acid sequences encoded by the aforementioned nucleic acid sequences, along with the amino acid sequence of yeast adenosine 5'-phosphosulfate (APS) kinase (GI:3529), are depicted in Appendix B. Copies of Appendices C and B are submitted herewith.

6. Even though SEQ ID NO:3 appears to be a partial open reading frame due to the sequencing error resulting in a frameshift, it is clear from the alignment that SEQ ID NO:3 still encodes a functional polypeptide. This is because an alignment of SEQ ID NO:4 with the polypeptide sequence of yeast APS kinase shows that SEQ ID NO:4 has significant sequence identity with the complete N-terminal end (and the remaining sequence) of yeast APS kinase. The yeast APS kinase does not appear to contain a plastid targeting signal, and the alignment further indicates that the sequencing error causing the frameshift occurred upstream of the mature protein, affecting only the plastid targeting sequence. Based on this information, it appears that a functional APS kinase is encoded by SEQ ID NO:3, and that the sequencing error has affected only the plastid targeting sequence of SEQ ID NO:3.

In summary, the nucleotide sequence set forth in SEQ ID NO:3 is nearly identical to a nucleotide sequence found in clone p0016.ctscj40rb and, while not a full open reading frame, does encode a functional protein having APS activity for all of the reasons discussed above.

Accordingly, the claimed invention does have a substantial and specific utility; and, one skilled in the art can practice the invention without engaging in undue experimentation.

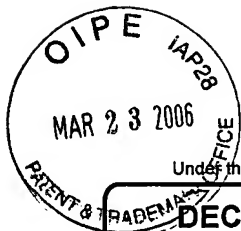
I declare further that all statements made herein of my own knowledge are true, and that all statements made on information and belief are believed to be true, and further, that these statements are made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issuing thereon.



Dr. Mitchell C. Tarczynski

8 MARCH 2006

Date



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PTO/SB/01A (10-05)
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U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

DECLARATION (37 CFR 1.63) FOR UTILITY OR DESIGN APPLICATION USING AN APPLICATION DATA SHEET (37 CFR 1.76)

Title of
Invention

GENES ENCODING SULFATE ASSIMILATION PROTEINS

As the below named inventor(s), I/we declare that:

This declaration is directed to:

- ☐ The attached application, or
- ☒ Application No. 10/829432 filed on 04/21/2004
- ☐ As amended on _____ (if applicable);

I/we believe that I/we am/are the original and first inventor(s) of the subject matter which is claimed and for which a patent is sought;

I/we have reviewed and understand the contents of the above-identified application, including the claims, as amended by any amendment specifically referred to above;

I/we acknowledge the duty to disclose to the United States Patent and Trademark Office all information known to me/us to be material to patentability as defined in 37 CFR 1.56, including for continuation-in-part applications, material information which became available between the filing date of the prior application and the national or PCT International filing date of the continuation-in-part application.

WARNING:

Petitioner/applicant is cautioned to avoid submitting personal information in documents filed in a patent application that may contribute to identity theft. Personal information such as social security numbers, bank account numbers, or credit card numbers (other than a check or credit card authorization form PTO-2038 submitted for payment purposes) is never required by the USPTO to support a petition or an application. If this type of personal information is included in documents submitted to the USPTO, petitioners/applicants should consider redacting such personal information from the documents before submitting them to the USPTO. Petitioner/applicant is advised that the record of a patent application is available to the public after publication of the application (unless a non-publication request in compliance with 37 CFR 1.213(a) is made in the application) or issuance of a patent. Furthermore, the record from an abandoned application may also be available to the public if the application is referenced in a published application or an issued patent (see 37 CFR 1.14). Checks and credit card authorization forms PTO-2038 submitted for payment purposes are not retained in the application file and therefore are not publicly available.

All statements made herein of my/own knowledge are true, all statements made herein on information and belief are believed to be true, and further that these statements were made with the knowledge that willful false statements and the like are punishable by fine or imprisonment, or both, under 18 U.S.C. 1001, and may jeopardize the validity of the application or any patent issuing thereon.

FULL NAME OF INVENTOR(S)

Inventor one: STEPHEN M. ALLEN

Signature: _____ Citizen of: US

Inventor two: MITCHELL C. TARCZYNSKI

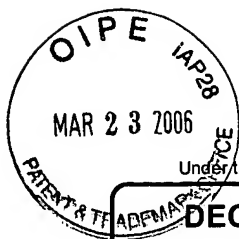
Signature: _____ Citizen of: US

☒ Additional inventors or a legal representative are being named on _____ additional form(s) attached hereto.

This collection of information is required by 35 U.S.C. 115 and 37 CFR 1.63. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 1 minute to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

Docket Number (Optional) : BB1167USCNT

FULL NAME OF INVENTOR(S)		
Inventor three	SHAWN L. ANDERSON	
Signature	_____	Citizen of: US
Inventor four	SAVERIO CARL FALCO	
Signature	_____	Citizen of: US
Inventor five	_____	
Signature	_____	Citizen of: _____
Inventor six	_____	
Signature	_____	Citizen of: _____
Inventor seven	_____	
Signature	_____	Citizen of: _____
Inventor eight	_____	
Signature	_____	Citizen of: _____
Inventor nine	_____	
Signature	_____	Citizen of: _____
Inventor ten	_____	
Signature	_____	Citizen of: _____
Inventor eleven	_____	
Signature	_____	Citizen of: _____
Inventor twelve	_____	
Signature	_____	Citizen of: _____
Inventor thirteen	_____	
Signature	_____	Citizen of: _____



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U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

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DECLARATION (37 CFR 1.63) FOR UTILITY OR DESIGN APPLICATION USING AN APPLICATION DATA SHEET (37 CFR 1.76)**Title of
Invention**

GENES ENCODING SULFATE ASSIMILATION PROTEINS

As the below named inventor(s), I/we declare that:

This declaration is directed to:

- ☐ The attached application, or
- ☒ Application No. 10/829432 filed on 04/21/2004
- ☐ As amended on _____ (if applicable);

I/we believe that I/we am/are the original and first inventor(s) of the subject matter which is claimed and for which a patent is sought;

I/we have reviewed and understand the contents of the above-identified application, including the claims, as amended by any amendment specifically referred to above;

I/we acknowledge the duty to disclose to the United States Patent and Trademark Office all information known to me/us to be material to patentability as defined in 37 CFR 1.56, including for continuation-in-part applications, material information which became available between the filing date of the prior application and the national or PCT International filing date of the continuation-in-part application.

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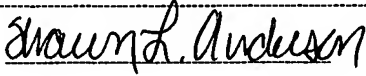
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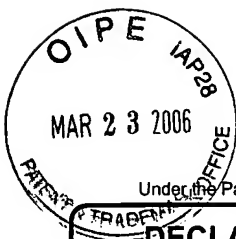
All statements made herein of my/own knowledge are true, all statements made herein on information and belief are believed to be true, and further that these statements were made with the knowledge that willful false statements and the like are punishable by fine or imprisonment, or both, under 18 U.S.C. 1001, and may jeopardize the validity of the application or any patent issuing thereon.

FULL NAME OF INVENTOR(S)Inventor one: STEPHEN M. ALLENSignature:  Citizen of: USInventor two: MITCHELL C. TARCZYNSKISignature: _____ Citizen of: US☒ Additional inventors or a legal representative are being named on _____ additional form(s) attached hereto.

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Inventor eleven		
Signature		Citizen of:
Inventor twelve		
Signature		Citizen of:
Inventor thirteen		
Signature		Citizen of:



PTO/SB/01A (10-05)

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U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

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I/we have reviewed and understand the contents of the above-identified application, including the claims, as amended by any amendment specifically referred to above;

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All statements made herein of my/own knowledge are true, all statements made herein on information and belief are believed to be true, and further that these statements were made with the knowledge that willful false statements and the like are punishable by fine or imprisonment, or both, under 18 U.S.C. 1001, and may jeopardize the validity of the application or any patent issuing thereon.

FULL NAME OF INVENTOR(S)Inventor one: STEPHEN M. ALLENSignature: _____ Citizen of: USInventor two: MITCHELL C. TARCZYNSKISignature: _____ Citizen of: US☒ Additional inventors or a legal representative are being named on _____ additional form(s) attached hereto.

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Inventor eleven	
Signature	Citizen of:
Inventor twelve	
Signature	Citizen of:
Inventor thirteen	
Signature	Citizen of:



PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

IN THE APPLICATION OF:

SAVERIO CARL FALCO ET AL.

CASE NO.: BB1167USCNT

APPLICATION NO.: 10/829432

GROUP ART UNIT: 1638

FILED: APRIL 21, 2004

EXAMINER: STUART F. BAUM

FOR: GENES ENCODING SULFATE ASSIMILATION PROTEINS

**STATEMENT BY ASSIGNEE IN SUPPORT OF REQUEST
TO CORRECT INVENTORSHIP**

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

The sole assignee of the originally-named inventors of the above-referenced application is submitting this Statement to provide consent to the change in inventorship in support of the accompanying Request to add Mitchell Tarczynski as an additional inventor in this application.

The undersigned individual offers this Statement as an authorized officer or agent of E.I. du Pont de Nemours and Company, the sole assignee of the originally-named inventors.

Respectfully submitted,

Date: 3/21/2006

Barbara J. Massie
Barbara J. Massie
E. I. du Pont de Nemours and Company
Assistant Secretary – Patent Board



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U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

STATEMENT UNDER 37 CFR 3.73(b)

Applicant/Patent Owner: E. I. DU PONT DE NEMOURS AND COMPANY

Application No./Patent No./Control No.: 10/829432 Filed/Issue Date: April 21, 2004

Entitled: GENES ENCODING SULFATE ASSIMILATION PROTEINS

E. I. DU PONT DE NEMOURS AND COMPANY, a

corporation

(Name of Assignee)

(Type of Assignee: corporation, partnership, university, government agency, etc.)

states that it is:

1. ☒ the assignee of the entire right, title, and interest; or
2. ☐ an assignee of less than the entire right, title and interest
(The extent (by percentage) of its ownership interest is _____ %)

in the patent application/patent identified above by virtue of either:

A. ☒ An assignment from the inventor(s) of the patent application/patent identified above. The assignment was recorded in the United States Patent and Trademark Office at Reel 017301, Frame 0085, or a true copy of the original assignment is attached.

OR

B. ☐ A chain of title from the inventor(s), of the patent application/patent identified above, to the current assignee as follows:

1. From: _____ To: _____
The document was recorded in the United States Patent and Trademark Office at Reel _____, Frame _____, or for which a copy thereof is attached.
2. From: _____ To: _____
The document was recorded in the United States Patent and Trademark Office at Reel _____, Frame _____, or for which a copy thereof is attached.
3. From: _____ To: _____
The document was recorded in the United States Patent and Trademark Office at Reel _____, Frame _____, or for which a copy thereof is attached.

☐ Additional documents in the chain of title are listed on a supplemental sheet.

As required by 37 CFR 3.73(b)(1)(i), the documentary evidence of the chain of title from the original owner to the assignee was, or concurrently is being, submitted for recordation pursuant to 37 CFR 3.11.

[NOTE: A separate copy (i.e., a true copy of the original assignment document(s)) must be submitted to Assignment Division in accordance with 37 CFR Part 3, to record the assignment in the records of the USPTO. See MPEP 302.08]

The undersigned (whose title is supplied below) is authorized to act on behalf of the assignee.

Barbara J. Massie

Signature

BARBARA J. MASSIE

Printed or Typed Name

ASSISTANT SECRETARY - PATENT BOARD

Title

3/21/2006

Date

302-992-4942

Telephone Number

This collection of information is required by 37 CFR 3.73(b). The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.